

IN THE CLAIMS:

Before claim 1, please replace the heading "Claims" with "What is claimed is:".

Please amend the claims of the International Application as shown below. The status of the claims after amendment will be as follows.

Claim 1 (cancelled)

2. (new) A reflow furnace comprising a tunnel having an entrance and an exit, a heating zone disposed between the entrance and exit, a conveyor for printed circuit boards extending through the heating zone, a suction pipe extending alongside the conveyor within the heating zone and having a plurality of suction ports formed therein, a flux fumes removal apparatus disposed on the exterior of the tunnel and fluidly communicating with the suction pipe, and a plurality of nozzles disposed at the entrance and exit of the tunnel and fluidly communicating with the flux fumes removal apparatus.

3. (new) A reflow furnace as claimed in claim 2 wherein the flux fumes removal apparatus comprises a filter and an aggregating portion which cools flux fumes which have passed through the filter.

4. (new) A reflow furnace as claimed in claim 2 wherein the conveyor includes a rail, and the suction ports are disposed above the rail.

5. (new) A reflow furnace as claimed in claim 2 wherein gas discharged from the nozzles at the entrance and exit forms air curtains at the entrance and exit.

6. (new) A reflow furnace as claimed in claim 2 wherein the suction pipe extends over an entire length of the heating zone.

7. (new) A reflow furnace as claimed in claim 2 including a cooling zone, wherein the suction pipe extends into the cooling zone.

8. (new) A reflow furnace as claimed in claim 2 including first and second opposing conveyors capable of supporting opposite widthwise sides of a printed circuit board, and first and second suction pipes extending alongside the first and second conveyors, respectively, each of the suction pipes having a plurality of suction ports facing towards the other suction pipe.

9. (new) A reflow furnace comprising a tunnel, a conveying apparatus which conveys an object to be soldered between first and second ends of the tunnel, a heater which heats an object to

be soldered as it passes through the tunnel, a flux fumes removal apparatus disposed on the exterior of the tunnel and having an inlet fluidly communicating with the interior of the tunnel and an outlet, and a nozzle disposed at an end of the tunnel and fluidly communicating with the outlet of the flux fumes removal apparatus, the nozzle receiving cleaned gas from the flux fumes removal apparatus and discharging the cleaned gas to form an air curtain.

10. (new) A method of operating a reflow furnace comprising:

transporting a printed circuit board on a conveyor through a heating zone of a tunnel of a reflow furnace containing a gas atmosphere;

heating the printed circuit board within the heating zone to generate flux fumes;

sucking a mixture of gas in the gas atmosphere and the flux fumes from the heating zone to an exterior of the tunnel;

removing flux fumes from the mixture to obtain cleaned gas; and

blowing the cleaned gas from a nozzle at an end of the tunnel to form an air curtain.

11. (new) A method as claimed in claim 10 including sucking the mixture of gas and flux fumes through suction ports in a suction pipe extending alongside the conveyor inside the heating zone.

12. (new) A method as claimed in claim 10 including blowing the cleaned gas from a nozzle at a first end and a nozzle at the second end of the tunnel to form an air curtain at each end of the tunnel.